



# Emissions Inventory Webinar

2021 Inventory Overview for Experienced Users  
February 3, 2022

South Carolina Department of Health and Environmental Control  
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# Overview

- Welcome
- What's New
- Inventory Reporting Requirements
- Inventory
- Wrap up



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# Welcome

- Webinar
  - Limitations – approx 30 sec delay
  - Recording should be downloadable by attendees up to 180 days after webinar (please allow several minutes after webinar for Teams to process video file)
  - Use the QA feed in live event or send questions to:  
[ei\\_submittals@dhec.sc.gov](mailto:ei_submittals@dhec.sc.gov)
  - Materials (powerpoint) will be posted to SLEIS homepage ([sleisprod.dhec.sc.gov/sleis](http://sleisprod.dhec.sc.gov/sleis)) and EI webpage (<https://scdhec.gov/environment/air-quality/compliance-monitoring/emissions-inventory>)



# Welcome - continued

- Scope of webinar
  - Overview/what's new for 2021 inventories and SLEIS
  - Use SLEIS training videos for “how-to” lessons on navigating SLEIS screens(<https://www.youtube.com/playlist?list=PLqGWmyz3QMps1NO4OioA9-X6QXJVGluR4> OR go to [www.youtube.com/scdhec](http://www.youtube.com/scdhec) and look for SLEIS in DHEC's playlists)



## What's New

- SLEIS 2.7 is here!
  - Like 2.6, most changes are in background however there is a change in marking operating status dates on EUs, Processes, RPs, Controls
- Revised Electronic Signature Agreement (ESA) beginning with 2020 inv
  - Fillable pdf
  - Notary signature requirement removed



## What's New - continued

- Facility General – new procedure!
  - No more hard-copy Facility General Info sheet/page
  - We will send the Facility contact information in email after processing ESA (the “We have processed your ESA and you can start SLEIS now...” email)
  - Simply confirm or send changes via email
    - Respond to our ESA email or send separate email to ei\_submittals mailbox.



## What's New – continued

- If H<sub>2</sub>S, DMS, DMDS, or methyl mercaptan reported, should also be summed and entered as TRS for tracking purposes. (does not apply to non pulp and paper facilities. TRS is a pulp and paper pollutant only)
- DMS, DMDS, and methyl mercaptan should also be included in total VOC since they are VOCs



## What's New – continued

- Sent invoices in late January (27<sup>th</sup>) instead of previous July
  - Permanent change for Title V facilities only
  - No change to minor and CM facility July billing (based on latest industry averages)
- Sending Title V invoices in January allows for:
  - Billing to be based on latest reviewed inventory
  - Allows time to complete review of all inventories and upload to EPA before billing
  - Avoids requests to use different data year inventory for billing
    - 2020 inventories impacted by COVID-19





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## What's New – continued – TV Billing

- Billable emissions provided when inventory review is complete instead of Alert Letters in May – 'Estimated Billable Emissions Report'
- New policy only changes the timing the TV invoice
  - All applicable reporting deadlines remain the same



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## Contacts

- |                                    |          |  |
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| • General SLEIS questions/support: |          | <a href="mailto:ei_submittals@dhec.sc.gov">ei_submittals@dhec.sc.gov</a> |



# Inventory Reporting Requirements

- Title V Facilities submit their Emissions Inventories on a schedule based on the **POTENTIAL** amount of pollutants emitted
  - Potential emissions listed in Statement of Basis for your TV permit and unincorporated construction permits
- Inv Type A Sources – submit every year:
  - SO<sub>x</sub>, NO<sub>x</sub>, CO  $\geq$  2500 tons/yr,
  - VOC, PM<sub>10</sub>, PM<sub>2.5</sub>, NH<sub>3</sub>  $\geq$  250 ton/yr
- All other Title V Sources – submit every 3 years (2014 data, 2017 data , 2020 data, etc.)



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# How do I get started?

- Register with SLEIS / register for reporting cycle
  - Must register each cycle in which you have to report an inventory
  - Electronic Subscriber Agreement (ESA)
  - Existing users still have SLEIS account and PW but 2021 Inventory report stub will not be created until ESA processed
    - Allows us to keep SLEIS and facility associations “clean” by refreshing them regularly



# Getting Started – don't forget

- Notes, Notes, Notes!
  - Make note of non-standard decisions
    - When you accounted for an emission elsewhere
    - Something temporarily didn't operate
    - Etc.
  - Helps us understand what you did
  - Use Comments sections in SLEIS – multiple locations/opportunities
  - Anything helps – bullet lists, etc., doesn't have to be complicated
  - In addition to Supporting Documentation



## Getting Started – don't forget

- SLEIS tables: Factor Table, SCC listing
  - Have been refreshed for 2021 data year
  - New combined 'Reference Tables' workbook – combines above and a few code-lookup tables into one excel workbook
  - Download from SLEIS homepage
- Confidential – two copies of supplemental info: public & conf
  - Confidential flag only exists on Process Emissions level
  - Setting confidential flag to 'yes' prevents the emission factor and throughput from being made public
  - Contact us if you have questions



# Inventory

- Get your permits - active operating and any construction permits not incorporated in TV which operated during reporting year (2021)
- SLEIS reports
- Any reports and/or supplemental sheets from last inventory review (i.e., 2020, etc.)
  - Contact you inventory reviewer if you need any of these.



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# Facility General

- Updates are currently not allowed on SLEIS Facility General screen
- Facility contact information will be sent to you after ESA is processed.
- Either respond to ESA email or send separate email to [ei\\_submittals@dhec.sc.gov](mailto:ei_submittals@dhec.sc.gov) with confirmation or any changes.
- No more Facility General form/sheet required!





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## Inventory – what to report?

- All permitted Emission Units
- All associated processes
- All regulated pollutants
- All Insignificant Activities (at least once)



# Inventory – what to report? - HAPs/TAPs

- Report if you emit any of these HAPs at any level (HAPs of Primary Concern:
  - <https://www.scdhec.gov/sites/default/files/docs/Environment/docs/HAPs%20of%20Primary%20Concern.pdf>
  - All other HAPs and TAPs should be reported if the facility wide total of that HAP or TAP exceeds 200 lbs
  - <http://www.epa.gov/ttn/atw/orig189.html>
  - <https://scdhec.gov/index.php/regulations-table>
  - All HAPs/TAPs are reported at the Process Emissions Level – no facility-level reporting available



# Inventory – what to report? - HAPs/TAPs

- TRI
  - Check your amounts reported to TRI vs EI
    - TRI should be close/equal to EI where practical
  - We realize that there are some de minimis reporting levels for TRI
  - EPA asks us for explanation when TRI is significantly different from EI !!



## Emission Units

- Reported in terms of your current permit
- Be sure to review EU Type code in SLEIS – change/update accordingly
- Operating Status/Status Date – be careful if EU shutdown in EI year or prior



# Fuel Burning

- Remember to enter fuel amounts in appropriate units, i.e. kgal, mmcf, tons, mmbtu
- Throughput units are driven by SCC and are found in the emission factor table
- Factors in SLEIS are dependent on SCC units – important!
- Multiple factors – specific to boiler type, burner type, etc. – Multiple factors are in SLEIS – use factor spreadsheet as guide



# Evaporative Loss

- Painting, coating, cleaning operations, etc.
- Calculate emissions using the material balance method
- Spreadsheets, supporting docs – attach in SLEIS
- HAP/TAPs...
  - Make sure your TRI emissions are the same as your Emission Inventory emissions!!!



# Tanks

- When is detailed storage tank information needed?
  - Tank's capacity is greater than 38.7 cubic meters (10,000 gallons), *or*
  - Stores a hazardous air pollutant, *or*
  - Emits one or more HAPs
- Detailed storage tank information is **not** needed for:
  - Pressurized storage tanks containing fluids such as liquid petroleum gas (LPG), liquid natural gas (LNG), natural gas, or inert gases



# Tanks

- Tank emissions can be estimated using EPA program TANKS 4.09D
  - Is based on the emission estimation procedures from Chapter 7 of EPA's AP-42
  - <http://www.epa.gov/ttn/chief/software/tanks/index.html>
  - EPA has discontinued support/development of TANKS 4.09D
  - If you wish to use other tank estimation software methods, please ensure calcs are based on AP-42 Chapter 7 algorithms
  - Can do manual calcs with AP-42 Chapter 7 algorithms if desired





## Other Source Types

- Landfill calculations:
  - Use LandGEM model and formulas in AP-42 Chapter 2.4
- Wastewater Calculations
  - Use Water9 model
- See: <https://www.epa.gov/air-emissions-factors-and-quantification/emissions-estimation-tools>



# Insignificant Activities

- Traditionally listed on your Title V Permit
- Newer permits do not list Insignificant Activities, but contain requirement to maintain list onsite
- You must submit that list with your supporting docs! (can be attached electronically in SLEIS – preferred)



## Insignificant Activities - continued

- Emissions from all Insignificant Activities must be reported at least once
  - If all not previously reported, need to report missing IAs in this Inventory
- You may update IA process rates and/ or emissions if you have more representative or newer data
  - May be left alone if they are close approximations of actual emissions



# Calculations

- Rule effectiveness/control device downtime – take into account when control equipment did not operate as designed – contact EI staff if you have questions
- Emission estimates are required for all regulated air pollutants, including but not limited to: criteria, 112R, HAP, and TAP pollutants
- Include any regulated pollutants in your calculations that have been missed in past inventories



## Calculations - continued

- The order of preferred methods from best to least desirable are:
  - Material balance calculations (method code 3)
  - Continuous Emissions Monitor (CEM) data (method code 1)
  - Bureau approved and reviewed source test emission factors (method codes 4, 10 (MATS))
  - AP-42, FIRE, or RICE Emission factors (method codes 8, 9, 29)
  - In-house source test (method code 2)
  - Other (method codes 12, 32)



## Method Code 10 - MATS

- Applicable if you have a factor derived from a Bureau-approved MATS (Mercury and Air Toxics Standard) source test
  - Mainly applicable to EGUs
  - You will need to enter the pollutant emission factors in SLEIS
    - Preferably, throughput units and factor units must match
    - If they don't, use EF Unit code "Other - Non Standard Units", enter the factor AND your manually calc'd emissions tonnage
    - Use Comment field to give actual factor units and test date
  - Contact Chad Wilbanks if you have questions.



# Stationary RICE – factors and emissions

- Optional procedure to estimate emissions from Stationary Reciprocating Internal Combustion Engines.
  - Choose factors from AP-42 or 40 CFR 60/63
  - Spreadsheet Tool developed to help pick pollutants/factors
  - Companion document to explain intricacies



# Stationary RICE – factors and emissions

- Spark Engines
  - AP-42 pollutants factors are still preferred
  - Spreadsheet Tool contains these
- Compression Engines
  - Choose AP-42 factors or 40 CFR 60 factors
  - Both are in Spreadsheet Tool





## Stationary RICE – factors and emissions

- If you use the 40 CFR 60 factors you must:
  - Enter the pollutant/factor(s) in SLEIS manually (Process Emissions)
  - Include HAP compliment
  - Use Method Code 8\_0
  - Enter throughput with same units as factor(s) (i.e., lb/MMBTU or lb/HP-hr)
  - All pollutants/factors for the process must use the same throughput units, i.e. lb/MMBTU or lb/HP-hr – no mixed units within polls/factors per process



## Stationary RICE – factors and emissions

- Enter the following in the Process Unit Comments section (when using 40 CFR 60 factors):
  - Cylinder displacement in liters
  - Horsepower rating
  - Subject to NSPS
  - Year of manufacture
  - Use type (emergency, non-emergency, fire pump, etc.)



## Method Code 4 – Source Test

- Emissions were calc'd based on the results of a Bureau-reviewed source test. Source test emission factors from a source test should be based on emission-per-throughput rate units where possible (i.e. lb/ton, lb/million BTU, etc.) and not a lb/hr factor
  - PM-FIL vs. PM-CON vs. PM-TOT
- Use factor result from most recent source test for entire calendar year
  - Simplified approach vs. previous inventory years
  - Can still average if desired; explain in Supplemental Documentation
- Calculations must be supplied and the date of the source test(s) being used must be indicated
  - Spreadsheets, word files, etc. ok – attach in SLEIS



## Pitfalls / tips

- Re-check your throughput values especially for fuels
  - Decimal place errors cause big swings in emissions; MCF vs MMCF
- If process has PM-fil, it must also have at least PM10-fil as well, PM2.5-fil also if possible
  - PM2.5-fil should not be > PM10-fil, and PM10-fil should not be > PM-fil
  - Conversely if a process has PM10-fil/PM2.5-fil it must also have PM-fil/PM10-fil
- Total metals in process should be < total PM-fil in process



## Pitfalls / tips

- VOC total per process must be equal or greater than sum of all VOC compounds in process
  - Same rule for facility-wide VOCs
- If Insignificant Activity has no regulated pollutants (i.e., water tank, etc.) please let us know so we won't continue to ask about it
- Do "sanity check" on overall emissions to uncover obvious data entry errors
  - Please explain any valid large swings vs. previous inventories
- Please explain/comment processes that are temporarily shutdown vs. permanently shutdown



## More thoughts...

- Emission units, release points, controls, etc. on your current permit that are not listed in SLEIS must be added to the SLEIS database
  - Contact your individual emissions inventory reviewer if you have questions
- Ammonia, condensable organics, and organic and elemental carbon are precursors to PM 2.5
  - Report any Ammonia, PM 2.5, or its precursors



## Wrap Up – don't forget

- Complete submittal:
  - Electronic Signature/Submission completed in SLEIS
  - Supporting Documentation
  - Facility General data – please respond to ESA email
  - List of Insignificant Activities
  - The above items can be attached electronically in SLEIS (preferred!)
- Inventory submittal not considered complete and on-time unless all have been received by us (or postmarked) by due date: March 31, 2022.



# Resources

- EIP Documents, AP-42 and other EPA estimating tools may be accessed at:
  - <http://www.epa.gov/chief>
- BAQ-EI webpage:
  - <https://scdhec.gov/environment/air-quality/compliance-monitoring/emissions-inventory>
- SLEIS Homepage:
  - <https://sleisprod.dhec.sc.gov/sleis>
- SLEIS Training Videos:
  - <https://www.youtube.com/playlist?list=PLqGWmyz3QMps1NO4OioA9-X6QXJVGlur4>





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## Resources

- NIST Chemistry Web Book
  - <http://webbook.nist.gov/chemistry>
- EPA's Substance Registry System
  - <http://www.epa.gov/srs>



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## Comments/survey

- Email [ei\\_submittals@dhec.sc.gov](mailto:ei_submittals@dhec.sc.gov) with comments on webinar
- Thanks!



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# CONTACT US

Support:

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